

1
SEQUENCE LISTING

<110> INTEGRAGEN

<120> HUMAN OBESITY SUSCEPTIBILITY GENE AND USES THEREOF

<130> B0225WO

<150> US 60/498,655

<151> 2003/08/29

<160> 2

<170> PatentIn version 3.1

<210> 1

<211> 3603

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (494)..(3037)

<223>

<400> 1

acaaagggag gaggaagaag ggagcgggggt cggagccgtc ggggccaaag gagacggggc 60

caggaacagg cagtctcggc ccaactgcgg acgctccctc caccctctgc gcaaaaagac 120

ccaaccggag ttgaggcgct gcccctgaag gcccacctt acacttggcg ggggccggag 180

ccaggctccc aggactgctc cagaaccgag ggaagctcgg gtcctccaa gctagccatg 240

gtgaggcgcc ggaggccccg gggccccacc ccccggcct gaccacactg ccctgggtgc 300

cctcctccag aagcccgaga tgcggggggc cgggagacaa cactcctggc tccccagaga 360

ggcgtgggtc tggggctgag ggccagggcc cggatgccca ggttccggga ctagggcctt 420

ggcagccagc ggggggtgggg accacgggca cccagagaag gtcctccaca catcccagcg 480

ccggctcccg gcc atg gag ccc ttg aag agc ctc ttc ctc aag agc cct 529

Met Glu Pro Leu Lys Ser Leu Phe Leu Lys Ser Pro
1 5 10

cta ggg tca tgg aat ggc agt ggc agc ggg ggt ggt ggg ggc ggt gga 577

Leu	Gly	Ser ₁₅	Trp	Asn	Gly	Ser	Gly ₂₀	Ser	Gly ²	Gly	Gly	Gly ₂₅	Gly	Gly	Gly	
gga Gly	ggc Gly ₃₀	cgg Arg	cct Pro	gag Glu	ggg Gly	tct Ser ₃₅	cca Pro	aag Lys	gca Ala	gcg Ala	ggg Gly ₄₀	tat Tyr	gcc Ala	aac Asn	ccg Pro	625
gtg Val ₄₅	tgg Trp	aca Thr	gcc Ala	ctg Leu	ttc Phe ₅₀	gac Asp	tac Tyr	gag Glu	ccc Pro	agt Ser ₅₅	ggg Gly	cag Gln	gat Asp	gag Glu	ctg Leu ₆₀	673
gcc Ala	ctg Leu	agg Arg	aag Lys	ggg Gly ₆₅	gac Asp	cgt Arg	gtg Val	gag Glu	gtg Val ₇₀	ctg Leu	tcc Ser	cgg Arg	gac Asp	gca Ala ₇₅	gcc Ala	721
atc Ile	tca Ser	gga Gly	gac Asp ₈₀	gag Glu	ggc Gly	tgg Trp	tgg Trp	gcg Ala ₈₅	ggc Gly	cag Gln	gtg Val	ggg Gly ₉₀	ggc Gly	cag Gln	gtg Val	769
ggc Gly	atc Ile	ttc Phe ₉₅	ccg Pro	tcc Ser	aac Asn	tat Tyr	gtg Val ₁₀₀	tct Ser	cgg Arg	ggg Gly	ggg Gly	ggc Gly ₁₀₅	ccg Pro	ccc Pro	ccc Pro	817
tgc Cys	gag Glu ₁₁₀	gtg Val	gcc Ala	agc Ser	ttc Phe	cag Gln ₁₁₅	gag Glu	ctg Leu	cgg Arg	ctg Leu	gag Glu ₁₂₀	gag Glu	gtg Val	atc Ile	ggc Gly	865
att Ile ₁₂₅	gga Gly	ggc Gly	ttt Phe	ggc Gly	aag Lys ₁₃₀	gtg Val	tac Tyr	agg Arg	ggc Gly	agc Ser ₁₃₅	tgg Trp	cga Arg	ggg Gly	gag Glu	ctg Leu ₁₄₀	913
gtg Val	gct Ala	gtg Val	aag Lys	gca Ala ₁₄₅	gct Ala	cgc Arg	cag Gln	gac Asp	ccc Pro ₁₅₀	gat Asp	gag Glu	gac Asp	atc Ile	agt Ser ₁₅₅	gtg Val	961
aca Thr	gcc Ala	gag Glu	agc Ser ₁₆₀	gtt Val	cgc Arg	cag Gln	gag Glu	gcc Ala ₁₆₅	cgg Arg	ctc Leu	ttc Phe	gcc Ala	atg Met ₁₇₀	ctg Leu	gca Ala	1009
cac His	ccc Pro	aac Asn ₁₇₅	atc Ile	att Ile	gcc Ala	ctc Leu	aag Lys ₁₈₀	gct Ala	gtg Val	tgc Cys	ctg Leu	gag Glu ₁₈₅	gag Glu	ccc Pro	aac Asn	1057
ctg Leu	tgc Cys ₁₉₀	ctg Leu	gtg Val	atg Met	gag Glu	tat Tyr ₁₉₅	gca Ala	gcc Ala	ggg Gly	ggg Gly	ccc Pro ₂₀₀	ctc Leu	agc Ser	cga Arg	gct Ala	1105
ctg Leu ₂₀₅	gcc Ala	ggg Gly	cgg Arg	cgc Arg	gtg Val ₂₁₀	cct Pro	ccc Pro	cat His	gtg Val	ctg Leu ₂₁₅	gtc Val	aac Asn	tgg Trp	gct Ala	gtg Val ₂₂₀	1153
cag Gln	att Ile	gcc Ala	cgt Arg	ggg Gly ₂₂₅	atg Met	cac His	tac Tyr	ctg Leu	cac His ₂₃₀	tgc Cys	gag Glu	gcc Ala	ctg Leu	gtg Val ₂₃₅	ccc Pro	1201
gtc Val	atc Ile	cac His	cgt Arg ₂₄₀	gat Asp	ctc Leu	aag Lys	tcc Ser	aac Asn ₂₄₅	aac Asn	att Ile	ttg Leu	ctg Leu	ctg Leu ₂₅₀	cag Gln	ccc Pro	1249
att Ile	gag Glu	agt Ser ₂₅₅	gac Asp	gac Asp	atg Met	gag Glu	cac His ₂₆₀	aag Lys	acc Thr	ctg Leu	aag Lys	atc Ile ₂₆₅	acc Thr	gac Asp	ttt Phe	1297
ggc Gly	ctg Leu ₂₇₀	gcc Ala	cga Arg	gag Glu	tgg Trp	cac His ₂₇₅	aaa Lys	acc Thr	aca Thr	caa Gln	atg Met ₂₈₀	agt Ser	gcc Ala	gcg Ala	ggc Gly	1345
acc Thr	tac Tyr	gcc Ala	tgg Trp	atg Met	gct Ala	cct Pro	gag Glu	gtt Val	atc Ile	aag Lys	gcc Ala	tcc Ser	acc Thr	ttc Phe	tct Ser	1393

285	290							3	295				300			
aag Lys	ggc Gly	agt Ser	gac Asp	gtc Val 305	tgg Trp	agt Ser	ttt Phe	ggg Gly	gtg Val 310	ctg Leu	ctg Leu	tgg Trp	gaa Glu	ctg Leu 315	ctg Leu	1441
acc Thr	ggg Gly	gag Glu	gtg Val 320	cca Pro	tac Tyr	cgt Arg	ggc Gly	att Ile 325	gac Asp	tgc Cys	ctt Leu	gct Ala	gtg Val 330	gcc Ala	tat Tyr	1489
ggc Gly	gta Val	gct Ala 335	gtt Val	aac Asn	aag Lys	ctc Leu	aca Thr 340	ctg Leu	ccc Pro	atc Ile	cca Pro	tcc Ser 345	acc Thr	tgc Cys	ccc Pro	1537
gag Glu	ccc Pro 350	ttc Phe	gca Ala	cag Gln	ctt Leu	atg Met 355	gcc Ala	gac Asp	tgc Cys	tgg Trp	gcg Ala 360	cag Gln	gac Asp	ccc Pro	cac His	1585
cgc Arg 365	agg Arg	ccc Pro	gac Asp	ttc Phe	gcc Ala 370	tcc Ser	atc Ile	ctg Leu	cag Gln	cag Gln 375	ttg Leu	gag Glu	gcg Ala	ctg Leu	gag Glu 380	1633
gca Ala	cag Gln	gtc Val	cta Leu	cgg Arg 385	gaa Glu	atg Met	ccg Pro	cgg Arg	gac Asp 390	tcc Ser	ttc Phe	cat His	tcc Ser	atg Met 395	cag Gln	1681
gaa Glu	ggc Gly	tgg Trp	aag Lys 400	cgc Arg	gag Glu	atc Ile	cag Gln	ggg Gly 405	ctc Leu	ttc Phe	gac Asp	gag Glu	ctg Leu 410	cga Arg	gcc Ala	1729
aag Lys	gaa Glu	aag Lys 415	gaa Glu	cta Leu	ctg Leu	agc Ser	cgc Arg 420	gag Glu	gag Glu	gag Glu	ctg Leu	acg Thr 425	cga Arg	gcg Ala	gcg Ala	1777
cgc Arg	gag Glu 430	cag Gln	cgg Arg	tca Ser	cag Gln	gcg Ala 435	gag Glu	cag Gln	ctg Leu	cgg Arg	cgg Arg 440	cgc Arg	gag Glu	cac His	ctg Leu	1825
ctg Leu 445	gcc Ala	cag Gln	tgg Trp	gag Glu	cta Leu 450	gag Glu	gtg Val	ttc Phe	gag Glu	cgc Arg 455	gag Glu	ctg Leu	acg Thr	ctg Leu	ctg Leu 460	1873
ctg Leu	cag Gln	cag Gln	gtg Val	gac Asp 465	cgc Arg	gag Glu	cga Arg	ccg Pro	cac His 470	gtg Val	cgc Arg	cgc Arg	cgc Arg	cgc Arg 475	ggg Gly	1921
aca Thr	ttc Phe	aag Lys	cgc Arg 480	agc Ser	aag Lys	ctc Leu	cgg Arg	gcg Ala 485	cgc Arg	gac Asp	ggc Gly	ggc Gly	gag Glu 490	cgt Arg	atc Ile	1969
agc Ser	atg Met	cca Pro 495	ctc Leu	gac Asp	ttc Phe	aag Lys	cac His 500	cgc Arg	atc Ile	acc Thr	gtg Val	cag Gln 505	gcc Ala	tca Ser	ccc Pro	2017
ggc Gly	ctt Leu 510	gac Asp	cgg Arg	agg Arg	aga Arg	aac Asn 515	gtc Val	ttc Phe	gag Glu	gtc Val	ggg Gly 520	cct Pro	ggg Gly	gat Asp	tcg Ser	2065
ccc Pro 525	acc Thr	ttt Phe	ccc Pro	cgg Arg	ttc Phe 530	cga Arg	gcc Ala	atc Ile	cag Gln	ttg Leu 535	gag Glu	cct Pro	gca Ala	gag Glu	cca Pro 540	2113
ggc Gly	cag Gln	gca Ala	tgg Trp	ggc Gly 545	cgc Arg	cag Gln	tcc Ser	ccc Pro	cga Arg 550	cgt Arg	ctg Leu	gag Glu	gac Asp	tca Ser 555	agc Ser	2161
aat Asn	gga Gly	gag Glu	cgg Arg 560	cga Arg	gca Ala	tgc Cys	tgg Trp	gct Ala 565	tgg Trp	ggg Gly	ccc Pro	agt Ser	tcc Ser 570	ccc Pro	aag Lys	2209

cct Pro	ggg Gly	gaa Glu 575	gcc Ala	cag Gln	aat Asn	ggg Gly	agg Arg 580	aga Arg	agg Arg	tcc Ser	cgc Arg	atg Met 585	gac Asp	gaa Glu	gcc Ala	2257
aca Thr	tgg Trp 590	tac Tyr	ctg Leu	gat Asp	tca Ser	gat Asp 595	gac Asp	tca Ser	tcc Ser	ccc Pro	tta Leu 600	gga Gly	tct Ser	cct Pro	tcc Ser	2305
aca Thr 605	ccc Pro	cca Pro	gca Ala	ctc Leu	aat Asn 610	ggg Gly	aac Asn	ccc Pro	ccg Pro	cgg Arg 615	cct Pro	agc Ser	ctg Leu	gag Glu	ccc Pro 620	2353
gag Glu	gag Glu	ccc Pro	aag Lys	agg Arg 625	cct Pro	gtc Val	ccc Pro	gca Ala	gag Glu 630	cgc Arg	ggg Gly	agc Ser	agc Ser	tct Ser 635	ggg Gly	2401
acg Thr	ccc Pro	aag Lys	ctg Leu 640	atc Ile	cag Gln	cgg Arg	gcg Ala	ctg Leu 645	ctg Leu	cgc Arg	ggc Gly	acc Thr	gcc Ala 650	ctg Leu	ctc Leu	2449
gcc Ala	tcg Ser	ctg Leu 655	ggc Gly	ctt Leu	ggc Gly	cgc Arg	gac Asp 660	ctg Leu	cag Gln	ccg Pro	ccg Pro	gga Gly 665	ggc Gly	cca Pro	gga Gly	2497
cgc Arg	gag Glu 670	cgc Arg	ggg Gly	gag Glu	tcc Ser	ccg Pro 675	aca Thr	aca Thr	ccc Pro	ccc Pro	acg Thr 680	cca Pro	acg Thr	ccc Pro	gcg Ala	2545
ccc Pro 685	tgc Cys	ccg Pro	acc Thr	gag Glu	ccg Pro 690	ccc Pro	cct Pro	tcc Ser	ccg Pro	ctc Leu 695	atc Ile	tgc Cys	ttc Phe	tcg Ser	ctc Leu 700	2593
aag Lys	acg Thr	ccc Pro	gac Asp	tcc Ser 705	ccg Pro	ccc Pro	act Thr	cct Pro	gca Ala 710	ccc Pro	ctg Leu	ttg Leu	ctg Leu	gac Asp 715	ctg Leu	2641
ggg Gly	atc Ile	cct Pro	gtg Val 720	ggc Gly	cag Gln	cgg Arg	tca Ser	gcc Ala 725	aag Lys	agc Ser	ccc Pro	cga Arg	cgt Arg 730	gag Glu	gag Glu	2689
gag Glu	ccc Pro	cgc Arg 735	gga Gly	ggc Gly	act Thr	gtc Val	tca Ser 740	ccc Pro	cca Pro	ccg Pro	ggg Gly	aca Thr 745	tca Ser	cgc Arg	tct Ser	2737
gct Ala	cct Pro 750	ggc Gly	acc Thr	cca Pro	ggc Gly	acc Thr 755	cca Pro	cgt Arg	tca Ser	cca Pro	ccc Pro 760	ctg Leu	ggc Gly	ctc Leu	atc Ile	2785
agc Ser 765	cga Arg	cct Pro	cgg Arg	ccc Pro	tcg Ser 770	ccc Pro	ctt Leu	cgc Arg	agc Ser	cgc Arg 775	att Ile	gat Asp	ccc Pro	tgg Trp	agc Ser 780	2833
ttt Phe	gtg Val	tca Ser	gct Ala	ggg Gly 785	cca Pro	cgg Arg	cct Pro	tct Ser	ccc Pro 790	ctg Leu	cca Pro	tca Ser	cca Pro	cag Gln 795	cct Pro	2881
gca Ala	ccc Pro	cgc Arg	cga Arg 800	gca Ala	ccc Pro	tgg Trp	acc Thr	ttg Leu 805	ttc Phe	ccg Pro	gac Asp	tca Ser	gac Asp 810	ccc Pro	ttc Phe	2929
tgg Trp	gac Asp	tcc Ser 815	cca Pro	cct Pro	gcc Ala	aac Asn	ccc Pro 820	ttc Phe	cag Gln	ggg Gly	ggc Gly	ccc Pro 825	cag Gln	gac Asp	tgc Cys	2977
agg Arg	gca Ala 830	cag Gln	acc Thr	aaa Lys	gac Asp	atg Met 835	ggg Gly	gcc Ala	cag Gln	gcc Ala	ccg Pro 840	tgg Trp	gtg Val	ccg Pro	gaa Glu	3025

gcg ggg cct tga gtgggcccagg ccactcccc⁵ gagctccagc tgccttagga 3077
 Ala Gly Pro
 845

ggagtcacag catacactgg aacaggagct gggtcagcct ctgcagctgc ctcagtttcc 3137
 ccagggaccc cccccccctt tgggggtcag gaacactaca ctgcacagga agccttcaca 3197
 ctggaagggg gacctgcgcc cccacatctg aaacctgtag gtccccccag ctcacctgcc 3257
 ctactggggc ccaacactgt acccagctgg ttgggaggac cagagcctgt ctcagggaat 3317
 tgcctgctgg ggtgatgcag ggaggagggg aggtgcaggg aagagggggc ggcctcagct 3377
 gtcaccagca cttttgacca agtcctgcta ctgcggcccc tgccctaggg cttagagcat 3437
 ggacctcctg ccctgggggt catctggggc cagggtcttc tggatgcctt cctgctgccc 3497
 cagccagggt tggagtctta gcctcgggat ccagtgaagc cagaagccaa ataaactcaa 3557
 aagctgtctc cccaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 3603

<210> 2

<211> 847

<212> PRT

<213> Homo sapiens

<400> 2

Met Glu Pro Leu Lys⁵ Ser Leu Phe Leu Lys¹⁰ Ser Pro Leu Gly Ser Trp¹⁵
 1

Asn Gly Ser Gly²⁰ Ser Gly Gly Gly Gly²⁵ Gly Gly Gly Gly Gly³⁰ Gly Arg Pro

Glu Gly Ser³⁵ Pro Lys Ala Ala Gly⁴⁰ Tyr Ala Asn Pro Val⁴⁵ Trp Thr Ala

Leu Phe⁵⁰ Asp Tyr Glu Pro Ser⁵⁵ Gly Gln Asp Glu Leu⁶⁰ Ala Leu Arg Lys

Gly Asp Arg Val Glu Val⁷⁰ Leu Ser Arg Asp Ala⁷⁵ Ala Ile Ser Gly Asp⁸⁰
 65

Glu Gly Trp Trp Ala⁸⁵ Gly Gln Val Gly Gly⁹⁰ Gln Val Gly Ile Phe Pro⁹⁵

Ser Asn Tyr Val¹⁰⁰ Ser Arg Gly Gly Gly¹⁰⁵ Pro Pro Pro Cys Glu Val Ala¹¹⁰

Ser Phe Gln Glu Leu Arg Leu Glu Glu Val Ile Gly Ile¹²⁵ Gly Gly Phe¹¹⁵
 120

Gly Lys Val Tyr Arg Gly Ser¹³⁵ Trp Arg Gly Glu Leu Val Ala Val Lys¹⁴⁰
 130

Ala 145 Ala Arg Gln Asp Pro 150 Asp Glu Asp Ile Ser 155 Val Thr Ala Glu Ser 160
 Val Arg Gln Glu Ala 165 Arg Leu Phe Ala Met 170 Leu Ala His Pro Asn 175 Ile
 Ile Ala Leu Lys 180 Ala Val Cys Leu Glu 185 Glu Pro Asn Leu Cys 190 Leu Val
 Met Glu Tyr 195 Ala Ala Gly Gly Pro 200 Leu Ser Arg Ala Leu 205 Ala Gly Arg
 Arg Val 210 Pro Pro His Val Leu 215 Val Asn Trp Ala Val 220 Gln Ile Ala Arg
 Gly 225 Met His Tyr Leu His 230 Cys Glu Ala Leu Val 235 Pro Val Ile His Arg 240
 Asp Leu Lys Ser Asn 245 Asn Ile Leu Leu Leu 250 Gln Pro Ile Glu Ser 255 Asp
 Asp Met Glu His 260 Lys Thr Leu Lys Ile 265 Thr Asp Phe Gly Leu 270 Ala Arg
 Glu Trp His 275 Lys Thr Thr Gln Met 280 Ser Ala Ala Gly Thr 285 Tyr Ala Trp
 Met Ala 290 Pro Glu Val Ile Lys 295 Ala Ser Thr Phe Ser 300 Lys Gly Ser Asp
 Val 305 Trp Ser Phe Gly Val 310 Leu Leu Trp Glu Leu 315 Leu Thr Gly Glu Val 320
 Pro Tyr Arg Gly Ile 325 Asp Cys Leu Ala Val 330 Ala Tyr Gly Val Ala 335 Val
 Asn Lys Leu Thr 340 Leu Pro Ile Pro Ser 345 Thr Cys Pro Glu Pro 350 Phe Ala
 Gln Leu Met 355 Ala Asp Cys Trp Ala 360 Gln Asp Pro His Arg 365 Arg Pro Asp
 Phe Ala 370 Ser Ile Leu Gln Gln 375 Leu Glu Ala Leu Glu 380 Ala Gln Val Leu
 Arg Glu 385 Met Pro Arg Asp 390 Ser Phe His Ser Met 395 Gln Glu Gly Trp Lys 400
 Arg Glu Ile Gln Gly 405 Leu Phe Asp Glu Leu 410 Arg Ala Lys Glu Lys 415 Glu

7

Leu Leu Ser Arg Glu Glu Glu Leu Thr Arg Ala Ala Arg Glu Gln Arg
 420 425 430
 Ser Gln Ala Glu Gln Leu Arg Arg Arg Glu His Leu Leu Ala Gln Trp
 435 440 445
 Glu Leu Glu Val Phe Glu Arg Glu Leu Thr Leu Leu Leu Gln Gln Val
 450 455 460
 Asp Arg Glu Arg Pro His Val Arg Arg Arg Arg Gly Thr Phe Lys Arg
 465 470 475 480
 Ser Lys Leu Arg Ala Arg Asp Gly Gly Glu Arg Ile Ser Met Pro Leu
 485 490 495
 Asp Phe Lys His Arg Ile Thr Val Gln Ala Ser Pro Gly Leu Asp Arg
 500 505 510
 Arg Arg Asn Val Phe Glu Val Gly Pro Gly Asp Ser Pro Thr Phe Pro
 515 520 525
 Arg Phe Arg Ala Ile Gln Leu Glu Pro Ala Glu Pro Gly Gln Ala Trp
 530 535 540
 Gly Arg Gln Ser Pro Arg Arg Leu Glu Asp Ser Ser Asn Gly Glu Arg
 545 550 555 560
 Arg Ala Cys Trp Ala Trp Gly Pro Ser Ser Pro Lys Pro Gly Glu Ala
 565 570 575
 Gln Asn Gly Arg Arg Arg Ser Arg Met Asp Glu Ala Thr Trp Tyr Leu
 580 585 590
 Asp Ser Asp Asp Ser Ser Pro Leu Gly Ser Pro Ser Thr Pro Pro Ala
 595 600 605
 Leu Asn Gly Asn Pro Pro Arg Pro Ser Leu Glu Pro Glu Glu Pro Lys
 610 615 620
 Arg Pro Val Pro Ala Glu Arg Gly Ser Ser Ser Gly Thr Pro Lys Leu
 625 630 635 640
 Ile Gln Arg Ala Leu Leu Arg Gly Thr Ala Leu Leu Ala Ser Leu Gly
 645 650 655
 Leu Gly Arg Asp Leu Gln Pro Pro Gly Gly Pro Gly Arg Glu Arg Gly
 660 665 670
 Glu Ser Pro Thr Thr Pro Pro Thr Pro Thr Pro Ala Pro Cys Pro Thr
 675 680 685

Glu Pro Pro Pro Ser Pro Leu Ile Cys Phe⁸ Ser Leu Lys Thr Pro Asp
690 695 700

Ser Pro Pro Thr Pro Ala Pro Leu Leu Leu Asp Leu Gly Ile Pro Val
705 710 715 720

Gly Gln Arg Ser Ala Lys Ser Pro Arg Arg Glu Glu Glu Pro Arg Gly
725 730 735

Gly Thr Val Ser Pro Pro Pro Gly Thr Ser Arg Ser Ala Pro Gly Thr
740 745 750

Pro Gly Thr Pro Arg Ser Pro Pro Leu Gly Leu Ile Ser Arg Pro Arg
755 760 765

Pro Ser Pro Leu Arg Ser Arg Ile Asp Pro Trp Ser Phe Val Ser Ala
770 775 780

Gly Pro Arg Pro Ser Pro Leu Pro Ser Pro Gln Pro Ala Pro Arg Arg
785 790 795 800

Ala Pro Trp Thr Leu Phe Pro Asp Ser Asp Pro Phe Trp Asp Ser Pro
805 810 815

Pro Ala Asn Pro Phe Gln Gly Gly Pro Gln Asp Cys Arg Ala Gln Thr
820 825 830

Lys Asp Met Gly Ala Gln Ala Pro Trp Val Pro Glu Ala Gly Pro
835 840 845